#### REMARKS/ARGUMENTS

#### 35 USC 102: Wu

The Office rejected claims 18, 22, and 24 under 35 USC 102(a) as being anticipated by Wu (US 5411714). The Applicant respectfully disagrees, but has amended independent claim 18 to add clarity.

Amended independent claim 18 recites *inter alia* the following limitations (1) ... wherein the inner chamber is gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber. No new matter has been added. Support for the claim amendments can be found in Fig 2a, and the corresponding specification text.

In this case, Wu fails to teach that the inner chamber is gaseously sealed from the outer chamber in the thermal reactor as currently claimed. Wu discloses a pyrolysis chamber 64 having a pyrolysis transport pipe 62 (that may be considered an inner chamber), and a reaction space 90 (that may be considered an outer chamber), but Wu specifically discloses that the pyrolysis transport pipe 62 (i.e. inner chamber) is provided with a series of perforations that allow the escape of gaseous output materials to the reaction space 90 (i.e. outer chamber). (Wu Spec., C7/L47-55, and Fig 2). Thus, Wu fails to recite that the inner chamber is gaseously sealed from the outer chamber in the thermal reactor.

In addition, Wu also fails to disclose a thermal oxidizer that produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber. Rather, Wu specifically teaches away by disclosing that heating subsystem 28 (i.e. thermal oxidizer) either vents the exhaust gases via exhaust tube 92 to: (1) other locations, such as the MD input assembly 26 (Wu spec., C9/L3-5), or (2) convolutions 96 which cause the sealed exhaust tube 92 to pass through the chamber wall 66 and into the reaction space, which "allows the exhaust gases 94 ... to be heated to an even more elevated temperature when it reaches the MD input assembly 26." (Wu spec., C9/L9-17).

Thus, Wu cannot be deemed to anticipate independent claim 18, and as such claims 22 and 24 are allowable by virtue of their dependency on allowable claim 18.

## 35 USC 103: Wu/Kawakami

The Office rejected claims 19 and 27 under 35 USC 103(a) as being unpatentable over Wu in view of Kawakami (US 4474524). The Applicant respectfully disagrees.

Wu and Kawakami individually or in combination thereof, fail to provide the requisite teaching, suggestion, or motivation to a person of ordinary skill in the art to practice: (1) an inner chamber gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber, as currently claimed in independent claim 18. Thus, the rejections of dependent claims 19 and 27 should be withdrawn, by virtue of their dependency on allowable independent claim 18.

### 35 USC 103: Wu/Bayer

The Office rejected claim 20 under 35 USC 103(a) as being unpatentable over Wu in view of Bayer (US 5376340). The Applicant respectfully disagrees.

Here again, Wu and Bayer individually or in combination thereof, fail to provide the requisite teaching, suggestion, or motivation to a person of ordinary skill in the art to practice: (1) an inner chamber gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber, as currently claimed in independent claim 18. Thus, the rejection of dependent claim 20 should be withdrawn, by virtue of its dependency on allowable independent claim 18.

# 35 USC 103: Wu/Noland

The Office rejected claim 23 under 35 USC 103(a) as being unpatentable over Wu view of Noland (Re 33776). The Applicant respectfully disagrees.

Once more, Wu and Noland individually or in combination thereof, fail to provide the requisite teaching, suggestion, or motivation to a person of ordinary skill in the art to practice:

(1) an inner chamber gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber, as currently claimed in independent claim 18. Thus, the rejection of dependent claim 23 should be withdrawn, by virtue of its dependency on allowable independent claim 18.

### 35 USC 103: Wu/Yung

The Office rejected claim 25 under 35 USC 103(a) as being unpatentable over Wu in view of Yung (US 5147421). The Applicant respectfully disagrees.

Again, Wu and Bayer individually or in combination thereof, fail to provide the requisite teaching, suggestion, or motivation to a person of ordinary skill in the art to practice: (1) an inner chamber gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber, as currently claimed in independent claim 18. Thus, the rejection of dependent claim 25 should be withdrawn, by virtue of its dependency on allowable independent claim 18.

#### 35 USC 103: Wu/Loken

The Office rejected claim 26 under 35 USC 103(a) as being unpatentable over Wu in view of Loken (US 3954069). The Applicant respectfully disagrees.

Wu and Loken individually or in combination thereof, fail to provide the requisite teaching, suggestion, or motivation to a person of ordinary skill in the art to practice: (1) an inner chamber gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber, as currently claimed in independent claim 18. Thus, the rejection of dependent claim 26 should be withdrawn, by virtue of its dependency on allowable independent claim 18.

# 35 USC 103: Wu/Martin

The Office rejected claims 28 and 29 under 35 USC 103(a) as being unpatentable over Wu in view of Martin (US 5921763). The Applicant respectfully disagrees.

Finally, Wu and Martin individually or in combination thereof, fail to provide the requisite teaching, suggestion, or motivation to a person of ordinary skill in the art to practice: (1) an inner chamber gaseously sealed from the outer chamber in the thermal reactor; and (2) a thermal oxidizer that ... produces exhaust gases that are vented to the outer chamber of the thermal reactor in a manner that heats the waste stream in the inner chamber, as currently claimed in independent claim 18. Thus, the rejections of dependent claims 28 and 29 should be withdrawn, by virtue of their dependency on allowable independent claim 18.

## **Request For Allowance**

Claims 18-29 are pending in this application. The applicant requests allowance of all pending claims.

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Respectfully submitted,

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